PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE RECONSTRUCTION OF AN EXISTING TRAFFIC SIGNAL (DUE TO GEOMETRIC CHANGES) AT THE INTERSECTION OF MD 139 (CHARLES ST.) AND KENILWORTH DR./BELLONA AVE. IN BALTIMORE COUNTY. MD 139 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE MD 139 @ KENILWORTH DR./BELLONA AVE. INTERSECTION WILL OPERATE IN A NEMA SEVEN-PHASE FULL-TRAFFIC-ACTUATED MODE WITH EXCLUSIVE LEFT TURN PHASES FOR NORTH-BOUND AND SOUTH-BOUND CHARLES ST., AN EXCLUSIVE-PERMISSIVE LEFT TURN PHASE FOR EAST-BOUND BELLONA AVE., CONCURRENT PEDESTRIAN PHASE FOR THE EAST LEG AND AN ALTERNATE PEDESTRIAN PHASE FOR THE NORTH LEG OF THE INTERSECTION.

CONTROLLER REQUIREMENTS

THE EXISTING BASE MOUNTED FULL-TRAFFIC-ACTUATED EIGHT PHASE TRAFFIC SIGNAL CONTROLLER SHALL BE USED. CONTRACTOR SHALL FURNISH APS CENTRAL CONTROL UNIT AND SHA SHALL INSTALL APS CENTRAL CONTROL UNIT AND VIDEO DETECTION INTERFACE EQUIPMENT. CONTRACTOR TO FURNISH AND INSTALL UPS SYSTEM HOUSED IN A BASE MOUNTED CABINET SIZE #5.

APS PUSHBUTTON MESSAGES

FOR CHARLES STREET CROSSING

WAIT: "WAIT TO CROSS CHARLES AT KENILWORTH"
WALK: RAPID TICK
WALK: "WALK SIGN ON TO CROSS CHARLES"

FOR KENILWORTH DR CROSSING

WAIT: "WAIT TO CROSS KENILWORTH AT CHARLES"
WALK: RAPID TICK
WALK: "WALK SIGN ON TO CROSS KENILWORTH"

CONTACT PERSONS FOR DISTRICT #4 ARE AS FOLLOWS:

MS. ERIN KUHN
ASSISTANT DISTRICT ENGINEER-TRAFFIC
PHONE: (410)321-2781

MR. MICHAEL PASQUARIELLO
UTILITY ENGINEER
PHONE: (410)321-2841

MR. ANDRE FUTRELL
ASSISTANT DISTRICT ENGINEER-MAINTENANCE
PHONE: (410)321-2761

CONTACT PERSONS FOR OOTS ARE AS FOLLOWS:

MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410)787-7630

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF
TRAFFIC OPERATIONS
(410)787-7630

MR. ED RODENHIZER
CHIEF, SIGNAL OPERATIONS
(410)787-7650

MR. EUGENE BAILEY
CHIEF, SIGN OPERATIONS
(410)787-7676

THE POWER COMPANY

BGE
GAS & ELECTRIC NEW BUSINESS DEPT.
(410) 850-4620

CONSTRUCTION DETAILS CONTINUED

L. INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
M. INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
N. INSTALL NON-INVASIVE MICRO-LOOP PROBE SET WITH 500 FT. LEAD-IN CABLE 3 IN. CARRIER PIPE, BORED
P. INSTALL 24 IN. WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING. (STOP LINE)
Q. INSTALL 12 IN. WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING. (CROSSWALK)
R. STUB CONDUIT AT POLE BASE; BGE TO MAKE FINAL CONNECTIONS
S USE EXISTING HANDBOX
T. USE EXISTING CONDUIT
U. INSTALL MICROLOOP PROBE SET WITH 500' LEAD-IN
V. INSTALL 1 INCH RIGID GALVANIZED CONDUIT (DETECTOR SLEEVE)
W. INSTALL 10 FT. BREAKAWAY PEDESTAL POLE WITH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, APS PUSHBUTTON AND R10-3(1) SIGN (ORIENT SIGN PARALLEL TO CROSSWALK) NOTE: INSTALL 1-3 IN PVC CONDUIT BEND INTO FOUNDATION
X. 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED (SEE INTERCONNECT PLAN)
Y. 12 IN. WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING (SEE CROSSWALK HATCHING DETAIL).
Z. INSTALL NON-INVASIVE MICRO-LOOP PROBE SET WITH 1000 FT. LEAD-IN CABLE IN 3 IN. CARRIER PIPE, BORED
AA. INSTALL BASE MOUNTED CABINET SIZE #5 WITH UPS SYSTEM NOTE: INSTALL 2-2 IN. CONDUIT BENDS INTO FOUNDATION.

EQUIPMENT LIST "A"

B. EQUIPMENT TO BE FURNISHED BY SHA AND INSTALLED BY CONTRACTOR.

CATAGORY CODE	DESCRIPTION	UNIT	QUANTITY
900000	VIDEO DETECTION INTERFACE EQUIPMENT	EA	1
		SF	97
973023	SHEET ALUMINUM SIGNS		
	1 - D-3(1) DUAL FACED (VAR.X16") "KENILWORTH DR" - MAST ARM MOUNT		
	1 - D-3(1) DUAL FACED (VAR. X 16") "BELLONA AVE - MAST ARM MOUNT		
	1 - D-3(1) DUAL FACED (VAR. X 16") "CHARLES ST" - MAST ARM MOUNT		
	2 - R3-5(L) (30"X36") - MAST ARM MOUNT		
	1 - M3-1 (24"X12"), M1-5(1) (30"X24", M6-1 (21"X15") - POLE MOUNT		
	1 - M3-3 (24"X12"), M1-5(1) (30"X24", M6-1 (21"X15") - POLE MOUNT		
	1 - M3-1 (30"X15"), M1-5(1) (48"X36", M6-1 (30"X24") - POLE MOUNT		
	1 - M3-3 (30"X15"), M1-5(1) (48"X36", M6-1 (30"X24") - POLE MOUNT		

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE LOCATIONS PRIOR TO INSTALLATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABELING EACH CABLE.
3. ALL UNUSED CABLE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
4. UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
5. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS, HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.02, MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
6. ACCESSIBLE PEDESTRIAN CONTROL EQUIPMENT SHALL BE DELIVERED TO THE SHA SIGNAL SHOP FOR TESTING AND PROGRAMMING PRIOR TO INSTALLATION. CONTACT MR. EDWARD RODENHIZER AT 410-787-7652 TO COORDINATE.
7. LOCATION OF ACCESSIBLE PEDESTRIAN PUSHBUTTONS MUST MEET THE LOCATION REQUIREMENTS OF THE MUTCD, SECTION 4E-09 AND FIGURE 4E-2 AND THE NCHRP PUBLICATION, "ACCESSIBLE PEDESTRIAN SIGNAL: GUIDE TO BEST PRACTICE." IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL THE CONFLICT HAS BEEN RESOLVED. IF NEEDED, A DESIGN WAIVER SHALL BE OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
8. FOR ADDITIONAL PAVEMENT MARKING INFORMATION SEE PAVEMENT MARKING PLANS.
9. PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR FROM 60"X60" LEVEL LANDING AREA. A LEVEL LANDING AREA IS AN AREA WITH A CROSS SLOPE OF LESS THAN 2%.
10. PUSHBUTTON IS TO BE LOCATED SO THAT A PEDESTRIAN IN A WHEELCHAIR LOCATED ON THE LEVEL LANDING AREA, DOES NOT HAVE TO REACH MORE THAN 18"
11. THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON, NOT CENTER TO CENTER OF POLE.
12. VIDEO CAMERA LOCATION/ALIGNMENT SHALL BE COORDINATED WITH THE SHA ENGINEER.
13. FOR LOCATION AND MD STANDARD OF SIDEWALK RAMPS AND INSTALLATION OF DETECTABLE WARNING SURFACES REFER TO THE ROADWAY PLANS.
14. ALL SIGNAL WORK SHALL BE COORDINATED WITH ROADWAY PLANS. SIGNAL EQUIPMENT SHALL BE INSTALLED PRIOR TO SIDEWALK/RAMP INSTALLATION.

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

CATAGORY CODE	DESCRIPTION	UNIT	QUANTITY
203030	TEST PIT EXCAVATION	CY	7
585625	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	180
585621	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	355
801004	CONCRETE FOR SIGNAL FOUNDATION	CY	15
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	485
805118	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED	LF	555
805125	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	35
805135	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	720
800000	METERED PEDESTAL SERVICE - EMBEDDED	EA	1
810010	ELECTRICAL CABLE 1-CONDUCTOR NO 4 AWG THHN/THWN	LF	45
810550	MICROLOOP PROBE, 500 FT. LEAD IN CABLE	EA	4
810601	NON-INVASIVE DETECTOR, 500 FT. LEAD IN CABLE	EA	3
810605	NON-INVASIVE DETECTOR, 1000 FT. LEAD IN CABLE	EA	3
810610	NONINVASIVE DETECTOR, CARRIER PIPE	LF	105
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	14
813015	INSTALL OVERHEAD SIGN	SF	97
816005	CONTROL CABLE, 250 FT. VIDEO DETECTION CAMERA TO CONTROLLER	EA	3
816010	CONTROL CABLE, 500 FT. VIDEO DETECTION CAMERA TO CONTROLLER	EA	3
818004	10 FT BREAKAWAY PEDESTAL POLE	EA	4
818036	STEEL POLE WITH A SINGLE 50 FT. MAST ARM	EA	1
818041	STEEL POLE WITH A SINGLE 60 FT. MAST ARM	EA	1
818052	STEEL POLE WITH A SINGLE 70 FT. MAST ARM	EA	1
831010	250 WATT HIGH PRESSURE SODUIM LAMP AND LUMINIARE	EA	3
833012	1 INCH DIAMETER FLEXIBLE STEEL CONDUIT	LF	20
837001	GROUND ROD - 3/4 INCH DIAMETER X 10 FT. LENGTH	EA	9
860284	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	EA	40
860292	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE	EA	3
861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	LF	585
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	LF	1340
861108	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	LF	1745
861116	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG)	LF	848
862102	SAW CUT FOR SIGNAL (LOOP DETECTOR)	LF	100
866103	15 FT. LIGHTING ARM ON SIGNAL STRUCTURE	EA	3
800000	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD	EA	4
800000	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON	EA	4
800000	PEDESTRIAN EDUCATION SIGN (R10-3(1) 9"X15"	EA	4
800000	8 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	EA	6
800000	REMOVE AND DISPOSE OF EXISTING EQUIPMENT PER ASSIGNMENT	LS	1
816001	VIDEO DETECTION CAMERA	EA	6
800000	APS CENTRAL CONTROL UNIT	EA	1
800000	UPS SYSTEM WITH BASE MOUNTED CABINET SIZE #5	EA	1

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND RETURNED TO SHA.

ALL MATERIALS AND EQUIPMENT REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

SHA
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 139 (CHARLES ST.)
AND KENILWORTH DR./BELLONA AVE.
TOWSON, MARYLAND

GENERAL INFORMATION SHEET I

SCALE NONE DATE MAY 2008 CONTRACT NO. BA9775A72

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DRAWN BY MLH
CHECKED BY DAE
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COUNTY BALTIMORE
LOGMILE 0301\3903.24
TIMS NO. I-572
TOD NO.

TS NO. 1594-CO-GI | DRAWING SP-02 OF 15 | SHEET NO. 273 OF

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